

SAB screw compressors (swept volumes 800–10,000 m³/h)

Sabroe SAB screw compressors are ideal for a wide range of industrial and marine applications where reliability and low operating costs are crucial requirements.

They can be used with all the most common refrigerants and process gases. The space-saving design has only a minimal footprint, paving the way to significant reductions in space requirements and building costs.

These units are also designed to be particularly service-friendly. All of the most important components, controls, service points and openings are located on the same side of the package.

This makes them easy to reach, helping ensure cost-effective service and maintenance.



SAB 193 screw compressor unit



SAB 355 screw compressor unit

Significant advantages

- Fitted with an IEC flange-mounted motor as standard. Alignment is machined into the parts at the factory.
- Highly effective SuperFilter II™ oil filter captures 99% of all particles larger than 5 microns.
- Special Cold Start™ valve that ensures immediate oil pressure at start-up. This lubricates the compressor without requiring an oil pump.
- Stepless capacity control ensures that capacity is always adjusted to suit requirements.
- Patented method of matching the internal volume ratio (Vi) to the system volume ratio.
- Integrated design with oil separator, compressor block, oil coolers, filters, etc.
- External oil cooling is available using high-efficiency thermosyphon or water-cooled oil cooler based on advanced plate heat exchanger technology.
- All SAB screw compressor packages are supplied with Unisab III control systems, ready to operate.

Customer benefits

- ▶ Eliminates both cold and hot alignment. Longer service life for bearings and shaft seal.
- ▶ Efficient oil management helps ensure longer bearing life, providing savings on both maintenance and replacement.
- ▶ Lower operating costs and reduced maintenance.
- ▶ Maximum part-load efficiency and lowest possible operating cost.
- ▶ Lowest possible operating costs. The automatic setting ensures optimum performance regardless of variations in operating conditions.
- ▶ Saves on space and reduces construction costs. The compact design also boosts reliability and extends service life. Easy access for operation and service.
- ▶ Eliminates capacity and power penalties and thus reduces operating costs.
- ▶ Makes efficient equipment management easy, ensuring better operating economics, less downtime and longer service life.

Sabroe product description

Standard equipment

SAB screw compressors are supplied with the following equipment as standard

- compressor block, electric motor, connecting tunnel and flexible coupling
- basic unit including oil separator with coalescing elements and oil return assembly, heating element, sight glass and highly efficient oil filter (SuperFilter II™ oil filter)
- suction stop valve, suction check valve and discharge stop/check valve assembly (cold start valve)
- Unisab III control system linked to sensors, transmitters and solenoid valves for best possible compressor monitoring and protection, as well as optimised control of both internal volume ratio (Vi) and compressor capacity.
- oil cooler.

Options

A wide range of optional equipment is available for use with Sabroe screw compressors. This includes

- thermosyphon and water-cooled oil coolers, with 3-way oil temperature control valve
- liquid injection oil cooling (EZ Cool™)
- dual external oil filters (SuperFilter II™ oil filters)
- complete economiser systems
- demand oil pump – controlled by Unisab III
- sensors and transmitters for control by PLC systems
- tools and spare part kits
- construction and approvals according to the most common design codes and classification societies.

Capacities in kW

Model	R717		R404A		With economiser	
	High stage -10/+35°C	Booster -40/-10°C	-10/35°C	High stage 0/+40°C	R717 -40/+35°C	R404A
SAB 193 S	541	164	524	779	155	213
SAB 193 L	723	220	709	1041	207	289
SAB 233 S	974	292	922	1404	271	379
SAB 233 L	1220	366	1199	1760	340	492
SAB 233 E	1520	456	1472	2191	424	606
SAB 283 S	1767	530	1694	2544	500	707
SAB 283 L	2215	664	2079	3190	627	874
SAB 283 E	2667	800	2524	N/A	755	1064
SAB 355 S	2785	836	2649	4033	786	1116
SAB 283 X	3033	910	2832	N/A	844	1185
SAB 355 L	3771	1131	3418	5459	1065	1457
SAB 355 E	4793	1438	4300	6940	1354	1838
SAB 355 X	N/A	1796	N/A	N/A	1681	2139

Technical data

Model	Swept volume (m³/h)*	Dimensions in mm L x W x H	Weight **	Sound pressure level dB(A)***
SAB 193 S	838	3191 x 1349 x 2027	2450	84
SAB 193 L	1118	3191 x 1349 x 2065	2550	84
SAB 233 S	1475	3388 x 1497 x 2317	3350	86
SAB 233 L	1856	3388 x 1497 x 2342	3450	86
SAB 233 E	2258	4118 x 1775 x 2534	4550	86
SAB 283 S	2640	4121 x 1858 x 2590	5700	88
SAB 283 L	3326	4121 x 1858 x 2647	5850	88
SAB 283 E	3998	4406 x 2075 x 2813	7650	88
SAB 355 S	4134	4350 x 2400 x 3400	8000	89
SAB 283 X	4516	4582 x 2075 x 2815	8950	88
SAB 355 L	5638	4350 x 2400 x 3400	8250	89
SAB 355 E	7175	5600 x 2450 x 3700	11100	89
SAB 355 X	9053	5600 x 2450 x 3700	11300	89

* at 50 Hz power supply

** Including oil cooler and excluding drive motor, oil and refrigerant charge.

*** Free field, over reflecting plane and one metre distance from the unit. Values are derived from test data for similar units and are indicative of the actual noise level measured in one or more applications.

Due to variations in equipment configurations, the dimensions and weights shown here are only guidelines. Use only certified drawings for erection. Drive motor can increase overall height.

All information is subject to change without previous notice